Aqua Mission Sponsors 2003 Engineering Competition

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On April 26, 2003, the Aqua Project Science Office, along with the NASA Goddard Space Flight Center Education Programs Office, EOS Mission Operations Office, Morgan State University, DuVal High School, and the Baltimore Museum of Industry, sponsored the Aqua Engineering Competition for High School students. The competition consisted of two rounds of problem solving, a qualifying long-term problem where teams had 10 weeks to solve a real-world Aqua problem, and a short-term hypothetical problem that had to be solved in 90 minutes.

In the competition's first round, teams from within Goddard's service region (Washington D.C. to Maine) were asked to determine the likely cause of a sudden increase and decrease that occurred in Aqua's solar array current and resulted in the spacecraft entering into "safe mode" during its first month of operation. A total of 12 entries were received and evaluated and the top five teams were selected as finalists. These finalists were then invited to DuVal High School for the second and final round of the competition, which occurred on April 26. Four high school teams from Maryland and one team from Connecticut were the five finalists and were tasked with determining how best to operate a supposed malfunctioning Solid State Recorder (SSR), including calculations for data loss based on specific SSR temperatures and bit error rates. The five finalist teams analyzed, sorted, and crunched data using their problem-solving skills, then used a laptop to make a final PowerPoint presentation to the judging panel.

After the presentations were made, all the teams, parents, judges and facilitators made their way across the street to the Goddard Visitor Center where everyone was treated to lunch and presentations by the sponsoring agencies. Meanwhile, the judges were hidden away to tally up the round two scores and ultimately determine the winners. At the end of the day, all the teams and parents were treated to a personal tour of the EOS Mission Operations Center, hosted by Paul Ondrus, the EOS Mission Operations Director.

The Grand Prize, a state-of-the-art PC or Apple Macintosh computer system complete with a large assortment of supporting software, was awarded to the six-member team of Perry Hall High School in Baltimore, Maryland.

The First Runner-Up team, from the Applications and Research Laboratory High School (Red Team) of Ellicott City, Maryland, was also awarded a PC or Apple Macintosh system with software.

Tourtellotte Memorial High School of Grosvenordale, Connecticut, placed a very impressive third, and Chopticon High School of Morganza, Maryland, and DuVal High School of Lanham, Maryland, rounded out the field of very impressive teams. In addition to the first and second place awards, Palm Pilots, shirts, and well-deserved trophies were given to all members of all five finalist teams.

NASA congratulates all the teams for impressive performances during an enjoyable day of competition and education. Many thanks to the following key contributors for all their hard work: Claire Parkinson, Aqua Project Scientist; Ken Anderson, Aqua Engineer; Steve Graham, Aqua Outreach Coordinator; Ron Erwin, Goddard Education Programs Office; Ana Swamy, Morgan State University; Eugene Hoffman, Morgan State University; Dereje Seifu, Morgan State University; Susan Maule, Baltimore Museum of Industry; Lynn Hardin, DuVal High School; and finally Paul Ondrus, EOS Mission Operations Director, for graciously providing the funding for the competition.

(From Left to Right, Top to Bottom) Aqua Project Scientist Dr. Claire Parkinson introduces the teams to the Round 2 problem; Welcome Poster; Ron Erwin of the GSFC Education Programs Office informs the student teams, coaches, and parents about the day's schedule and activities; the first place team from Perry Hall High School of Baltimore, Maryland; Aqua Outreach Coordinator Steve Graham explains the solution to the Round 1 problem; the second place team from the Applications and Research Laboratory High School of Ellicott City, Maryland;the third place team from Tourtellotte Memorial High School of Grosvenordale, Connecticut; the fourth place team from Chopticon High School of Morganza, Maryland; the fifth place team from DuVal High School of Lanham, Maryland.